

## REMARKS

In paragraphs 1 and 2 of the Office Action Applicant prior election of claims 1-24 is acknowledged. Applicant confirms the withdrawal of claims 25-33 herein and requests that claims 25-33 be cancelled.

In paragraph 3 of the Office Action it is indicated that the title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the elected claims are directed. Responsive hereto Applicant has amended the title to read -- ELECTRICAL LEAD STRUCTURES HAVING CRYSTALLINE STRUCTURES THAT MATCH UNDERLYING MAGNETIC HARD BIAS LAYERS FOR MAGNETORESISTIVE SENSORS --.

In paragraphs 4 and 5 of the Office Action claims 1, 6, 13 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Horng et al (US Pat. No. 6632474 B1), stating:

“As recited in claim 1, Horng et al show a magnetic head (see Fig. 2) having a magnetoresistive sensor 10, comprising a plurality of sensor layers (see col. 1, lines 20-33); a hard bias/lead structure being disposed at side areas of said sensor layers, said hard bias/lead structure including: a hard bias layer 15 having a crystalline structure and electrical lead layer 18 having an ordered crystalline structure (see col. 7, lines 21-41, especially line 32, “close packed”; see also col. 7, lines 38-41, which show CoPtCr/Rh and CoPtCr/Ir as possibilities for the PM/conductor configuration, wherein a layer of Rh is inherently “ordered” insofar as specific atoms (Rh) reside at specific locations (all lattice points) within the crystal structure, and wherein a layer of Ir is inherently “ordered” insofar as specific atoms (Ir) reside at specific locations (all lattice points) within the crystal structure), and wherein said crystalline structure of said lead is epitaxially matched to said crystalline structure of said hard bias layer (see col. 2, lines 30-52, especially lines 45-51, “formation of lead layers on longitudinal bias layers of a hard magnetic material requires careful attention to the physical consequences of crystallographic matching between the magnetic layer and the conducting layer”).”

Regarding claim 6: See teachings above for claim 1.

As recited in claim 13, in addition to the above teachings, Horng et al show a hard disk drive including a magnetic head having a magnetoresistive sensor (see abstract, last 2 lines, "suitable for reading high density recorded disks at high RPM"; see also Col. 4, lines 20-35, especially line 35, "in drives with appreciably higher RPM").

Regarding claim 18: See teachings above for claims 1 and 13."

Responsive hereto, and in light of the indication of allowable subject matter in paragraph 6 of the Office Action (indicating that claims 2-5, 7-8, 14-17 and 19-20 are objected-to but allowable if rewritten in independent form) Applicant has amended the claims to place the limitations of rejected independent claims 1, 6, 13 and 18 into appropriate objected-to dependent claims, and Applicant has then cancelled rejected independent claims 1, 6, 13 and 18. Applicant therefore respectfully submits that this ground of rejection has been satisfied.

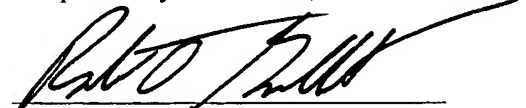
In paragraph 6 of the Office Action it is indicated that" claims 2-5, 7-8, 14-17 and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." Responsive hereto, Applicant has amended dependent claims 2, 7, 8, 14, 19 and 20 to include the limitations of the independent claim from which the dependent claim respectively depended. Applicant therefore respectfully submits that these objected-to dependent claims have now been rendered allowable by this amendment.

In paragraph 7 of the Office Action it is indicated that claims 9-12 and 21-24 are allowed. Applicant appreciates the indication of allowable subject matter.

Having responded to all of the paragraphs of the Office Action, and having amended the claims accordingly, Applicant respectfully submits that the Application is now in condition for allowance. Applicant therefore respectfully requests that a Notice of Allowance be forthcoming at the Examiner's earliest opportunity. Should the Examiner

have any questions or comments with regard to this amendment, a telephonic conference at the number set forth below is respectfully requested.

Respectfully submitted,



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**CERTIFICATE OF MAILING (37 CFR 1.8(a))**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited on September 29, 2005 with the U.S. Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: September 29, 2005

  
Patricia Beilmann